

REMARKS/ARGUMENTS

The claims are not amended; no new matter is added.

All of the obviousness rejections are traversed.

The Office argues that the components (A) and (B) of the traction drive fluid composition of present Claim 1 and the claims depending therefrom are obvious in view of the cited references. Previously responding to the obviousness rejections, the Applicants presented superior and unexpected results. The Office takes issue with the superior results, arguing alternatively that the claims at issue are drawn to “a traction drive fluid composition and not a method of using the composition in a transmission such as a continuously variable transmission,”¹ that “the examiner is not convinced that the results presented....are unexpected to the skilled worker in the art,”² and “that the approximately 1% difference reported in Matsuno for two different viscosity index improvers versus the 0% difference for the claimed viscosity index improvers in the property of traction coefficient does not rise to the level of superior and unexpected results.”³ The Office’s reasoning is flawed.

The traction drive fluid composition of present Claim 1 and the claims depending therefrom, as previously described, exhibits *three* superior and unexpected results, in view of the cited references, *simultaneously*: 1) improvement in viscosity index, 2) excellence in shear stability, and 3) good traction coefficient not lower than that of a base oil.⁴ *Each* of the superior and unexpected results, *by itself* is enough to address a *prima facie* case of obviousness. That the presently claimed inventive embodiments produce three simultaneous superior and unexpected results significantly weighs favorably toward patentability, and the Office has not addressed this.

¹ See Official Action page 4.

² Id. at page 5.

³ Id.

⁴ See specification pages 2, lines 5-8.

Without re-presenting in full, the previously discussed superior and unexpected results, some highlights are useful. For instance, specification non-inventive Comparative Example 1 demonstrates that when the weight of component (B) is *too large*, the resulting fluid composition exhibits poor shear stability.⁵ Alternatively, non-inventive Comparative Example 2 demonstrates that when the weight average molecular weight of component (B) is *too small*, the resulting fluid exhibits a poor viscosity index.⁶ Thus, and without being bound by theory, the weight range of component (B) is *critical*.

In non-inventive Comparative Example 3, an ethylene/propylene copolymer is employed instead of component (B) and the resulting fluid exhibits poor traction coefficient.⁷

The above data, taken together, demonstrate that employing a viscosity index improver other than component (B) results in a fluid that does not simultaneously exhibit the superior (and unexpected in light of the cited references) results of: 1) improvement in viscosity index, 2) excellence in shear stability, and 3) good traction coefficient not lower than that of a base oil.

The Office argues that Holubec teaches hydrogenated interpolymers of at least one monovinyl arene and at least one C₄-C₆ conjugated diene or at least one C₂-C₆ alpha-olefin may be used as additives, and the interpolymers have a number average molecular weight of 750 to 10,000.⁸ The Office's argument misses the point because the Holubec does not *distinguish* component (B) of present Claim 1 from interpolymers having lower molecular weights. Houlbec, at column 4, lines 47-52, describes that the interpolymers have a number average molecular weight of 750 to 10,000, and most preferably 900 to 3,000, and this range is more close to the ethylene/styrene copolymer employed in non-inventive Comparative

⁵ See specification page 14, and Table 1-1, specification page 18, where in the Viscosity decrease after shear stability test, % decrease for Comparative Example 1 was a significant -31.5%.

⁶ See specification page 19, Table 1-2.

⁷ Id. where the traction component is 0.074.

⁸ See Official Action page 3.

Example 2. As described above, non-inventive Comparative Example 2 demonstrates that when the weight average molecular weight of component (B) is too small, the resulting fluid exhibits a poor viscosity index, so Holubec is *silent* regarding the *critical* range of the weight average molecular weight of component (B).

Additionally, Holubec is silent regarding the effects obtained by adding the interpolymer to a base oil. So, starting with the disclosures of for example Yoshida, Abe, or Muari with Holubec, one of ordinary skill must select an intepolymer having a non-preferred molecular weight range, and none of the applied references describe or suggest the simultaneous superior results of: 1) improvement in viscosity index, 2) excellence in shear stability, and 3) good traction coefficient not lower than that of a base oil.

Finally, the Office also asserts that Matsuno⁹ describes polyalkylstyrene viscosity index improvers – but Matsuno discloses many index improvers, including polyisobutylene, and does not distinguish among them. Non-inventive Comparative Example 4 employs polyisobutylene and the resulting fluid exhibits poor shear stability.¹⁰

The cited references are *silent* regarding the combination of component (A) and component (B), the superior and unexpected results simultaneously obtained thereby, as described above, and the criticality of the composition and weight range of component (B). The claimed inventive embodiments are not obvious in view of the cited references. Withdrawal of the obviousness rejections is requested.

⁹ See Official Action page 3.

¹⁰ See specification pages 15-16, and page 19, Table 1-2.

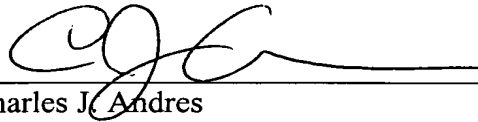
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Applicants submit the present application is now in condition for allowance. Early notification to this effect is earnestly solicited.

Respectfully submitted,

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